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Supplemental Information

An Asian Elephant Imitates Human Speech

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Table S1. Transcriptions of Koshik's Imitations by Korean Native Speakers for Specific Sound Examples

Sound File	(1) Potential Model Utterance	(2) Transcription of Max	(3) Max Agreement on Exact Spelling	(4) Vowel Similarity (%)	(5) Consonant Similarity (%)	(6) Translation to English of Transcription / Model
k030	Annyong	Annyong	9	100	50	Hello / hello
k126	Aniya	Aniya	7	50	0	No / no
k080	Choah	Boah	6	100	100	Look / good
k147	Choah	Moa	4	100	0	Collect / good
k181	Nuo	Nuo	5	33	0	Lie down / lie down
k218	Nuo	Muo	4	50	0	What? / lie down
k234	Anja	Aja	4	50	0	Let's fight / sit down
k34	Anja	Anja	2	33	0	Sit down / sit down

(1) The potential model utterance, (2) the transcription of the exact spelling on which the maximum number of respondents agreed, (3) the maximum number of respondents that agreed on that exact spelling (out of 16), (4) the percentage of vowels and (5) the percentage of consonants that were identical in the two most frequent transcriptions, and (6) the translation to English of the most frequent transcription and the model utterance are given.

Table S2. Data for the Comparative Analyses of Koshiks' Speech Imitation, the Human Model Utterances, and the Natural Asian Elephant Vocalizations

ID	Sex	Location	Year of Recording	Age at Recording	N Calls Analyzed	N Calls Statistic
Koshik	M	Everland	2010	18	230	40
Humans	M	Everland	2010	adults	100	40
Naing Thein	M	Leipzig	2011	31	23	10
Gadschendra	M	Leipzig	2011	18	53	10
SM1	M	UW NP	07-08	subadult	27	10
JM1	M	UW NP	07-08	juvenile	11	10
Voi Nam	M	Heidelberg	2002	11	38	10
Tarak	M	Heidelberg	2005	7	7	7
Gandhi	M	Heidelberg	2006	6	8	8
Moung Htoo	M	Emmen	2002	4	15	10
40	F	UW NP	07-08	adult	6	6
440	F	UW NP	07-08	adult	13	10
458	F	UW NP	07-08	adult	5	5
830	F	UW NP	07-08	subadult	63	10
Amali	F	UW NP	07-08	adult	7	7
Chandrika	F	UW NP	07-08	adult	8	8
Dilini	F	UW NP	07-08	adult	6	6
Inoka	F	UW NP	07-08	adult	5	5
Mary	F	Walding	07-09	39-41	96	10
Bimbi	F	Walding	07-09	36-38	21	10
Hati	F	Everland	2010	11	6	6
Annabel	F	Emmen	2002	38	23	10
Khaing Lwin Ht	F	Emmen	2002	21	17	10
Thiha Phyu	F	Emmen	2002	22	9	9

The sex, the location, the year of recording, the age at recording (or age group in the case of the wild Asian elephants), the number of calls analyzed (N calls analyzed) and the number of calls in the DFA (N calls statistic) are given for each individual.

Table S3. Data for the Formant Analysis Comparing Koshiks' Vowels "a," "o," and "u" to the Human Models

ID	Vowels					
	"a"		"o"		"u"	
	F1	F2	F1	F2	F1	F2
Koshik	41	74	46	28	46	17
Trainer 1	20	20	12	3	5	2
Trainer 2	20	19	15	7		
Veterinarian	5	5	4	2	9	9
Humans	40	44	31	12	14	11
total						

Variable	F-Value	df	Significance
"a" F1	$F_{1,79} = 0.028$		$p = 0.868$
"a" F2	$F_{1,116} = 3.603$		$p = 0.060$
"o" F1	$F_{1,75} = 2.219$		$p = 0.141$
"o" F2	$F_{1,38} = 0.180$		$p = 0.674$
"u" F1	$F_{1,58} = 2.473$		$p = 0.121$
"u" F2	$F_{1,26} = 4.225$		$p = 0.052$

(A) The number of Koshik's and human formant measurements per vowel used for the box plot presentation (Figure 3A) and the ANOVA are given.

(B) Results of the ANOVA comparing Koshik's formant frequencies to the corresponding human formants for each vowel. The variable, the F-value, the degrees of freedom (df) and the significance for each comparison are given.